

REMARKS

Claims 1 and 4-7 are pending in the application, and are rejected. Claims 1, 4, 5 and 7 are herein amended. No new matter has been entered.

Claim Rejections - 35 U.S.C. §103(a)

Claims 1 and 4-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yamane (US Patent No. 6,451,872).

The Examiner asserts that Yamane discloses non-asbestos friction materials comprising a fibrous base; a binder; 5-60 wt% filler such as alumina and metal powders; and 1-40 wt% (col. 6, lines 29-31) rubber composite particles composed of (col. 4, lines 56-65) 5-35 wt% unvulcanized rubber (col. 3, lines 8-16) such as NBR and SBR (col. 2, line 58 to col. 3, line 7), 1-30 wt% hard particles such as silicon carbide (col. 4, line 14) having a particle size of 0.1-10 microns (col. 4, lines 36-37), and 65-94 wt% fibrous material. The Examiner concludes that since Yamane discloses amounts in weight %, it would have been obvious to one of ordinary skill in the art to utilize the presently claimed wt % amounts of silicon carbide and rubber given that they significantly overlap as shown in the estimate above.

Applicants herein amend the claims to clarify the invention. Thereafter, Applicants respectfully submit that the rejections are overcome by the presently clarified claims.

Applicants note that the rubber in Yamane is crosslinked to form its final product. However, the composition of Yamane is assembled in a non-crosslinked state. The rubber particles contain unvulcanized rubber and are only subsequently crosslinked during the subsequent curing of the friction material (col. 6, lines 10-27).

Applicants note that the rubber particles of Yamane contain unvulcanized rubber and are subsequently crosslinked during the subsequent curing of the friction material. Such subsequent crosslinking requires at least one of two elements, which may be used to differentiate the present invention from that of the cited reference.

First, according to Yamane beginning on column 6, line 10, when the rubber composite material particles are mixed into the friction material composition, addition and mixture of the particles into the composition is preferably carried out with the rubber within the rubber composite particles in an uncrosslinked (unvulcanized) or semi-crosslinked (semi-vulcanized) state and together with a vulcanizing agent (crosslinking agent) such as sulfur. The crosslinking agent makes possible the subsequent crosslinking of the rubber composite particles, resulting in closer adhesion with the other constituents.

Yamane further indicates beginning on column 6, line 24 that instead of including a crosslinking agent, the addition of a vulcanizing agent (crosslinking agent) may be omitted where use is made of a self-crosslinking (self-vulcanizing) rubber. In such case, no crosslinking agent is required.

Applicants herein amend claims 1 and 7 to recite that the present rubber is unvulcanized and non-self-vulcanizing rubber which is not crosslinked, and the non-asbestos-based friction material comprises no crosslinking agent for rubber.

Since the present invention does not rely on crosslinking, the present invention has no need for a crosslinking agent. Therefore, the added claim limitations precluding inclusion of a crosslinking agent for rubber and precluding any crosslinking of the rubber, before or after assembling, overcomes even the case when Yamane includes a crosslinking agent.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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